

Please replace the text on page 1, lines 3-4 with the following text. A "marked-up" version of each amendment is included in Attachment A.

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Broad Spectrum Ultraviolet Inspection Systems Employing Catadioptric Imaging

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Please insert the following paragraph on page 1, line 5.

*A1*

This is a continuation of copending application Serial No. 09/596,540 filed on June 16, 2000, now U.S. Patent No. 6,313,467 B1, which is a divisional application of U.S. Patent Application Serial No. 08/950,283 filed on October 14, 1997, now U.S. Patent No. 6,133,576, which is a divisional application of U.S. Patent Application Serial No. 08/681,528 filed on July 22, 1996, now U.S. Patent No. 5,717,518.

In the Claims:

Please cancel claims 1-20 without prejudice or disclaimer as to the subject matter recited therein. Please add the following claims:

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21. (Added) A broad band ultraviolet achromatic catadioptric inspection system, comprising a broad band ultraviolet objective lens configured to image a first object at a first ultraviolet wavelength and to image a second object at a second ultraviolet wavelength different than the first ultraviolet wavelength, wherein the objective lens comprises a first lens and a second lens having different dispersions.

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22. (Added) The system of claim 21, wherein the first and second objects are selected from the group consisting of a reticle, a resist, and a semiconductor wafer.

23. (Added) The system of claim 21, wherein the first and second ultraviolet wavelengths are selected based on the first and second objects, respectively.

24. (Added) The system of claim 21, wherein the first and second objects comprise different

materials, and wherein the first and second ultraviolet wavelengths are selected based on reflectivities of the different materials at different ultraviolet wavelengths.

25. (Added) The system of claim 21, wherein the first and second ultraviolet wavelengths are selected from the group consisting of 193 nm, 248 nm, and 365 nm.

26. (Added) The system of claim 21, wherein the first and second ultraviolet wavelengths are separated by about 10 nm to about 50 nm.

27. (Added) The system of claim 21, wherein the first or second object comprises a reticle, and wherein the first or second ultraviolet wavelength is an exposure wavelength for which the reticle has been constructed.

28. (Added) The system of claim 21, wherein the first and second objects comprise different resists, and wherein the first and second ultraviolet wavelengths comprise about 313 nm and about 220 nm, respectively.

29. (Added) The system of claim 21, wherein a field size of the objective lens is about 0.5 mm diameter.

30. (Added) The system of claim 21, wherein the objective lens has a significantly flattened field.

31. (Added) The system of claim 21, wherein the objective lens corrects primary and residual longitudinal and lateral color over a wavelength band of at least 20 nm.

32. (Added) The system of claim 21, wherein the objective lens further comprises a focusing lens group configured to focus ultraviolet light at an intermediate image, a field lens group disposed proximate the intermediate image, wherein the field lens group comprises the first lens and the second lens, and a catadioptric relay group configured to form a final image of the intermediate image.

33. (Added) The system of claim 21, further comprising an excimer laser configured to illuminate the first and second objects with ultraviolet light at the first and second ultraviolet wavelengths, respectively.

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34. (Added) The system of claim 21, wherein the objective lens is further configured to image the first and second objects with light scattered by the first and second objects, respectively.

35. (Added) The system of claim 21, further comprising a ring dark field illumination source configured to illuminate the first and second objects with ultraviolet light at the first and second ultraviolet wavelengths, respectively.

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36. (Added) The system of claim 21, wherein the system is configured to classify defects and features on the first or second object using the image of the first or second object, respectively.

37. (Added) A broad band ultraviolet achromatic catadioptric inspection system, comprising:

a broadband ultraviolet light source configured to illuminate a first object with a first ultraviolet wavelength and to illuminate a second object with a second ultraviolet wavelength different than the first ultraviolet wavelength; and

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a broad band ultraviolet objective lens configured to image the first object at the first ultraviolet wavelength and to image the second object at the second ultraviolet wavelength, wherein the objective lens comprises a first lens and a second lens having different dispersions.

38. (Added) The system of claim 37, wherein the first or second object comprises a reticle, and wherein the first or second ultraviolet wavelength is an exposure wavelength for which the reticle has been constructed.

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39. (Added) The system of claim 37, wherein the objective lens is further configured to image the first and second objects with light scattered by the first and second objects, respectively.

40. (Added) The system of claim 37, wherein the light source comprises an excimer laser.
41. (Added) A broad band ultraviolet achromatic catadioptric inspection system, comprising:  
an illumination system configured to scan a surface of an object with light of different ultraviolet wavelengths at different focal planes; and  
a broad band ultraviolet objective lens configured to form multiple images of the surface of the object at the different focal planes.
42. (Added) The system of claim 41, wherein the different ultraviolet wavelengths are separated by about 10 nm to about 50 nm.
43. (Added) The system of claim 41, further comprising multiple detectors having corresponding bandpass filters configured to detect the multiple images.
44. (Added) The system of claim 41, wherein the system is further configured to integrate the multiple images to form a 3-D image of the object.
45. (Added) The system of claim 41, further comprising a computer configured to integrate the multiple images to produce a composite image of the object having a greater depth of focus than any of the multiple images.

#### REMARKS

Claims 1-20 have been cancelled thereby rendering the restriction required under 35 U.S.C. § 121 moot. Claims 21-45 have been added. Further examination and reconsideration of the presently claimed application is respectfully requested.